

Paper reference 31760H
Pearson BTEC Level 3
Nationals Extended Certificate
Foundation Diploma,
Diploma, Extended Diploma

Total Marks

Information Technology
UNIT 1: Information Technology
Systems

Friday 9 June 2023 – Morning
Time: 2 hours

In the boxes below, write your name, centre number and learner registration number.

Surname						
Other names						
Centre Number						
Learner Registration Number						

YOU MUST HAVE:

Nil.

YOU WILL BE GIVEN:

Data Book.

INSTRUCTIONS

- **Answer ALL questions.**
- **Answer the questions in the spaces provided in this question paper or in the Data Book – there may be more space than you need.**

INFORMATION

- **The total mark for this paper is 90.**
- **The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.**
- **There may be spare copies of some diagrams.**

Turn over

ADVICE

- **Read each question carefully before you start to answer it.**
 - **Try to answer every question.**
 - **Check your answers if you have time at the end.**
-

**ANSWER ALL QUESTIONS.
WRITE YOUR ANSWERS IN THE SPACES
PROVIDED.**

- 1. Media students in a school create information and event materials.**
 - (a) The media students use word processing software to create the materials.**
 - (i) Identify TWO OTHER types of software the media students could use to produce the materials.**
(2 marks)

Answer space continues on the next page

TYPE 1 _____

Turn over

Question 1 (a) (i) continued

TYPE 2 _____

(continued on the next page)

Question 1 (a) continued

- (ii) Explain TWO benefits of using word processing software to create the materials.
(4 marks)**

Answer space continues on the next page

BENEFIT 1 _____

Question 1 (a) (ii) continued

BENEFIT 2 _____

(continued on the next page)

Turn over

Question 1 continued

- (b) The students at the school use the internet to research projects. The headteacher is concerned about malware.**

One type of malware is a virus that is designed to spread from one computer to another by replicating itself.

**Explain TWO OTHER types of malware.
(4 marks)**

Answer space continues on the next 2 pages

TYPE 1 _____

Turn over

Question 1 (b) continued

TYPE 2

Question 1 (b) continued

(continued on the next page)

Question 1 continued

- (c) The headteacher wants to use an online web form to gather data from students and their parents.**

Explain THREE implications that should be considered when designing the web form.

(6 marks)

Answer space continues on the next 2 pages

IMPLICATION 1 _____

Turn over

Question 1 (c) continued

IMPLICATION 2

Question 1 (c) continued

IMPLICATION 3 _____

(continued on the next page)

Question 1 continued

**(d) Discuss how the teachers can use IT to enhance teaching and learning.
(6 marks)**

Answer space continues on the next 2 pages

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Turn over

Question 1 (d) continued

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Turn over

Question 1 (d) continued

(Total for Question 1 = 22 marks)

2. Luca runs a family business from home. His two children study at a college.

(a) Luca has purchased laptops for the family that do not have any software installed.

**Explain the terms
'application software' and
'systems software'.
(4 marks)**

Answer space continues on the next 2 pages

APPLICATION SOFTWARE

Turn over

Question 2 (a) continued

SYSTEM SOFTWARE

Question 2 (a) continued

(continued on the next page)

Question 2 continued

- (b) Luca is considering installing open – source system software.**
- (i) Explain TWO advantages of installing open – source system software rather than proprietary system software. (4 marks)**

Answer space continues on the next page

ADVANTAGE 1 _____

Question 2 (b) (i) continued

ADVANTAGE 2 _____

(continued on the next page)

Turn over

Question 2 (b) continued

- (ii) Explain ONE disadvantage of installing open – source system software.
(2 marks)**

Answer space continues on the next page

Question 2 (b) (ii) continued

(continued on the next page)

Question 2 continued

(c) Luca wants to ensure the data on the laptops is protected and secure.

(i) One way Luca could protect the data is to use antivirus software.

Describe how the features of antivirus software will protect the data on the laptops.

(4 marks)

Answer space continues on the next 2 pages

Question 2 (c) (i) continued

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Question 2 (c) (i) continued

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Question 2 (c) continued

- (ii) One threat to the security of data is phishing, which tricks victims into handing over sensitive information.**

Discuss OTHER threats to data.

(8 marks)

Answer space continues on the next 3 pages

Question 2 (c) (ii) continued

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Question 2 (c) (ii) continued

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Question 2 (c) (ii) continued

(Total for Question 2 = 22 marks)

3. Craig is the manager of a leisure centre.

A new network is to be installed.

The leisure centre includes:

- **a storeroom**
- **a reception area for the staff to take bookings**
- **an office where all administration work is undertaken**
- **a members' area with wireless laptops for use by members.**

Craig and his staff have access to tablets that they use for personal training sessions and classes.

(continued on the next page)

Question 3 continued

- (a) On the blank space provided for Question 3 (a) in the separate Data Book, draw a diagram to show the integration of systems and software used in this process.**

The diagram should include devices and systems that are used, including:

- **a server in the storeroom**
- **2 desktop PCs in the reception area with wired connections**
- **2 desktop PCs and a printer in the office with wired connections**
- **3 laptops in the members' area with wireless connection to the internet**

(continued on the next page)

Turn over

Question 3 (a) continued

- **3 tablets with wireless connection**
- **connection type(s) used**
- **annotations.**

(6 marks)

(continued on the next page)

Question 3 continued

- (b) A single – user, multitasking operating system is installed on the tablets.**

**Describe THREE OTHER types of operating system.
(6 marks)**

Answer space continues on the next 2 pages

TYPE 1 _____

Question 3 (b) continued

TYPE 2

Question 3 (b) continued

TYPE 3 _____

(continued on the next page)

Question 3 continued

- (c) Members can pay for classes via the leisure centre's website using their credit or debit card.**

**Describe how SSL/TLS protocols are used to secure this process.
(4 marks)**

Answer space continues on the next page

Turn over

Question 3 (c) continued

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Question 3 continued

- (d) Many factors influence the leisure centre's choice for the new network.**

PURCHASE COST and SECURITY are two of these factors.

Discuss OTHER factors that should be taken into consideration.

(8 marks)

Answer space continues on the next 3 pages

Turn over

Question 3 (d) continued

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Question 3 (d) continued

(Total for Question 3 = 24 marks)

- 4. Seren Health Centre has a computerised patient details system. The health centre uses processes to protect its system and patients' data. One process it uses is username and password authentication.**
- (a) Discuss OTHER processes the health centre could use to protect its system and patients' data.**

You need to consider:

- file permissions**
- access levels**
- backup and recovery procedures**
- physical access control.**

(10 marks)

Answer space continues on next 5 pages

Turn over

Question 4 (a) continued

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Question 4 (a) continued

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Question 4 (a) continued

(continued on the next page)

Question 4 continued

- (b) The health centre uses social media to keep patients up-to-date on important information about the health centre.**

**Evaluate the advantages and disadvantages of the use of social media in the healthcare sector.
(12 marks)**

Answer space continues on next 5 pages

Turn over

Question 4 (b) continued

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Question 4 (b) continued

(Total for Question 4 = 22 marks)

TOTAL FOR PAPER = 90 MARKS

END OF PAPER
